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EXAMINER

FEGGINS, KRISTAL J

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/900,623

Applicant(s)

AUBIN ET AL.

Examiner

K. Feggins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-16 and 20-22 is/are allowed.
- 6) ☐ Claim(s) 1-4, 6-10, 17, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) 5, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-10, 17, 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (6,392,681 B1) in view of Terrell, Jr. et al. (US 5,473,984).

Wood et al. disclose the following claimed limitations:

* a printer having a printhead assembly for printing on a sheet material disposed on a worksurface, said printhead assembly including a plurality of printing elements (Abstract),

* a printhead support structure for supporting said printhead assembly(fig 1);

* means for securing said printhead assembly to said printhead support structure(col 28, lines 50-67, figs 2, 4, 5, 19A);

* wherein said means for securing said printhead assembly to said printhead support structure is a pin for attaching said printhead assembly to said printhead support structure (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* wherein said pin is a trunnion pin (col 13, lines 48-64, figs 2, 4, 5, 19A);

* wherein said pin fits through said printhead assembly and engages said printhead support structure (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* wherein said means for engaging is a set screw fitting into a threaded opening/aperture/ defined within said printhead assembly to engage said pin (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* wherein said set screw/trunnion pin/ is adjusted to affect adjustment of said printhead assembly position to orient said printing elements properly with respect to said worksurface (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* wherein said printhead support structure removably supports said printhead assembly (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* a printer having a printhead assembly for printing on a sheet material disposed on a worksurface, said printhead assembly including a plurality of printing elements (Abstract, col 14, lines 51-67),

* a printhead support structure for removably supporting said printhead assembly (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* a pin for removably securing said printhead assembly to said printhead support structure, said pin fitting through said printhead assembly and engaging said printhead support structure (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* wherein said pin fits through an aperture formed within said printhead assembly with said aperture having a first aperture portion and a second aperture portion, said second aperture portion having an oval shape to allow relative movement of said pin and said printhead assembly (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* said set screw fits through a set screw opening formed within said printhead assembly to allow said set screw to engage said pin such that when said set screw is adjusted, relative movement of said pin and said printhead assembly occurs, thereby properly orienting said printing elements with respect to said worksurface (col 13, lines 48-64, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* a printer having a printhead assembly for printing on a sheet material disposed on a worksurface (fig 1)

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* a printhead support structure for removably supporting said printhead assembly (col 13, lines 48-64, col 14, lines 51-67, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* a pin for securing said printhead assembly to said printhead support structure, said pin fitting through said printhead assembly and engaging said printhead support structure (col 13, lines 48-64, col 14, lines 51-67, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* means for adjusting skew of said printhead assembly with respect to an edge of said sheet material (col 24, printing sheet alignment and tracking, col 27, lines 17-67, col 28, lines 1-3);

* wherein said means for securing said printhead assembly to said printhead support structure is a pin for attaching said printhead assembly to said printhead support structure (col 13, lines 48-64, col 14, lines 51-67, col 28, lines 50-67, col 29, lines 1-5, figs 2, 4, 5, 19A);

* said means for adjusting angular orientation is at least one set screw engaging said pin for adjusting angular orientation of said printing elements of said printhead assembly with respect to said worksurface (col 24, Printing Sheet Alignment and Tracking, col 27, lines 17-67, col 28, lines 1-3);

* said means for adjusting skew is at least one cam cooperating with said pin to adjust position of said printhead with respect to said edge of said strip material (col 24, Printing Sheet Alignment and Tracking, col 27, lines 17-67, col 28, lines 1-3).

Wood et al. does not disclose the following claimed limitations:

* means for adjusting angular orientation of said plurality of printing elements of said printhead assembly with respect to said worksurface

* said means for adjusting angular orientation is at least one means for engaging said pin, said at least one means for engaging being supported by said printhead assembly, said at least one means for engaging allowing adjustment of said printhead assembly to properly position said printing elements with respect to said worksurface

* at least one set screw engaging said pin for adjusting angular orientation of said printing elements of said printhead assembly with respect to said worksurface

* at least one cam/cantilever arm/ cooperating with said pin to adjust position of said printhead with respect to said edge of said strip material

Terrell, Jr. et al. disclose the following claimed limitation:

* means for adjusting angular orientation of said plurality of printing elements of said printhead assembly with respect to said worksurface (col 3, line 61-col 4, line 24, figs 5-7, 11) for the purpose of preventing the printhead from coming into too close of contact with the printing media.

* said means for adjusting angular orientation is at least one means for engaging said pin, said at least one means for engaging being supported by said printhead assembly, said at least one means for engaging allowing adjustment of said printhead assembly to properly position said printing elements with respect to said worksurface (col 3, line 61-col 4, line 24, figs 5-7,11) for the purpose of adjusting printheads in printers which allows the adjuster to compare print quality of different positional alignments.

* at least one set screw engaging said pin for adjusting angular orientation of said printing elements of said printhead assembly with respect to said worksurface (col 3, line 61-col 4, line 24, figs 5-7,11) for the purpose of adjusting printheads that are not subject to tolerance build-up problems.

* at least one cam and a adjusting means/ cooperating with said pin to adjust position of said printhead with respect to said edge of said strip material (col 3, line 61-col 4, line 24, figs 5-7,11) for the purpose of dynamically adjusting printheads in printers.

It would have been obvious at the time of the invention was made to a person having ordinary skill in the art to utilize means for adjusting angular orientation of a plurality of printing elements of a printhead assembly with respect to the worksurface; means for adjusting angular orientation is at least one means for engaging the a pin, the

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at least one means for engaging being supported by the printhead assembly, the at least one means for engaging allowing adjustment of the printhead assembly to properly position the printing elements with respect to the worksurface; at least one set screw engaging a pin for adjusting angular orientation of the printing elements of the printhead assembly with respect to the worksurface; at least one cam cooperating with the pin to adjust position of the printhead with respect to the edge of the strip material, taught by Terrell, Jr. et al. into Wood et al. for the purposes of preventing the printhead from coming into too close of contact with the printing media, adjusting printheads in printers which allows the adjuster to compare print quality of different positional alignments, adjusting printheads that are not subject to tolerance build-up problems, and for the purpose of dynamically adjusting printheads in printers.

Response to Arguments

Applicant's arguments with respect to claims 1-4, 6-10, 17, 23-24 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejection, Wood et al. in view of Terrell, Jr. et al. In combination they disclose means for adjusting angular orientation of said plurality of printing elements of a printhead assembly with respect to said worksurface.

Allowable Subject Matter

3. Claims 11-13, 14-16, 20-22 are allowed.
4. Claim 5, 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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5. The following is a statement of reasons for the indication of allowable subject matter: The primary reason for indicating allowable subject matter of claims 5 & 18-19 is the inclusion of limitations of a printhead assembly that includes a pin that has a recessed portion for said at least one means for engaging to engage said recessed portion of said pin and a cam fits through a cam opening formed within the printhead assembly to allow the cam to cooperate with the pin such that when the cam is adjusted, the printhead assembly is moved relative to said edge of the sheet material for proper printing operation. It is these limitations found in the claims, as they are claimed in the combination of, which has not been found, taught or suggested by the prior art of record that makes these claims allowable over the prior art.

The following is an examiner's statement of reasons for allowance: The primary reason for the allowance of claims 11-13 is the inclusion of the method steps for adjusting orientation of a removable printhead assembly that includes a adjusting position of the printhead assembly within the printhead supporting structure for a plurality of printing elements of the printhead assembly to be properly oriented with respect to a worksurface by adjusting means for adjusting orientation of the printing elements with respect to the worksurface wherein the means for adjusting is disposed within the printhead assembly. It is these method steps found in the claims, as they are claimed in the combination of, which has not been found, taught or suggested by the prior art of record that makes these claims allowable over the prior art.

The primary reason for the allowance of claims 14-16 is the inclusion of limitations of a printhead assembly that includes means for adjusting skew of the

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printhead assembly with respect to an edge of said sheet material means for adjusting skew being disposed within the printhead assembly. It is these limitations found in the claims, as they are claimed in the combination of, which has not been found, taught or suggested by the prior art of record that makes these claims allowable over the prior art. The primary reason for the allowance of claims 20-22 is the inclusion of method steps for adjusting skew of a printhead assembly that includes adjusting a mechanism for adjusting skew of the printhead assembly with respect to an edge of strip material to ensure proper orientation of the printhead assembly with respect to the edge of the strip material disposed on the worksurface, with the mechanism for adjusting skew being disposed within the printhead assembly. It is these method steps found in the claims, as they are claimed in the combination of, which has not been found, taught or suggested by the prior art of record that makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Isogai (US 5436772) discloses a thermal transfer printing apparatus in which a thermal head having a series of selectively energized heating elements. Kapushinski et al. (US 6,452,620 B1) disclose methods and apparatus for improved thermal printing.

Communication With The USPTO

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Feggins whose telephone number is 703-306-4548. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. Fuller can be reached on 703-308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-872-9318 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


K. Feggins
May 30, 2003